

One Thing Leads to Another: Evolution, Play, and Technology

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The Beginning

Play, as it pertains to children, has many definitions.¹ Read through any combination of literature about play, and you will see that each piece defines it differently. Theoretically, definitions of play have incorporated the following phrases: “functional pleasure,” “essence of the youthful,” “exercising of the ego,” “messages exchanged,” “seems to have no immediate objective,” “make[s] no immediate contribution to survival,” and “rehearsals performed in a nonfunctional context of the serious activities.”² Play is interpreted widely because members from many disciplines utilize it in their studies; the aforementioned definitions reflect psychological, anthropological, biological, and zoological perspectives. Play is a commonality among animals and is therefore applicable to work done in many disciplines. Given its multidisciplinary tendency, it would seem appropriate for researchers to agree upon one definition of play. However, over time, the definition has become broader—so broad that I will argue it is leading to play’s demise.

Since the passage of the No Child Left Behind Act in 2001, play has been under attack, as many schools cut recess to boost academic rigor, and early childcare programs cut back on playtime to promote pre-kindergarten endeavors. As play dwindles, play advocates continue to produce research and materials showing the benefits of play and urge that it should be restored in education. Despite many convincing arguments, the advocates have had minimal, if any, effect. I would like to argue that our inability to agree upon one fundamental definition, and by definition I mean truth about play, is negatively impacting our ability to create thoughtful

¹ The *Oxford English Dictionary Online* defines play in noun form, first of 19 definitions, as “Exercise, brisk or free movement or action,” and in verb form, first of 32 definitions, as “Senses relating to movement, exercise, and activity.”

² Borrowed from *Animal Play Behavior* by R. Fagan, these phrases are excerpted from the definitions of play according to the following philosophers (in order of appearance): K. Buhler, Buytendijk, Claparede, G. Bateson, Hall, Hinde, and E. O. Wilson.

arguments in support of play's positive impact on children's lives. The more time we spend trying to define play, the further we move from understanding its purpose and addressing its immediate problems; as we argue over that which should have been agreeably defined ages ago, we are failing to address what has become of play as it has evolved.

Embedded in the evolution of play, and by extension its definition, is technology's impact on it.³ Children's toys are often made to be symbolic of tools they will use as adults; for example, the toy hammer is used by children pretending to fix things, and by extension, they are learning the real function and value of the hammer. Like the hammer, an ancient tool that has evolved from stone to steel, the technology that future generations of children will be exposed to is different than the technology of today; the way children will discover and make new tools or other inventions will involve the process of play. The process of play is best described by Ian Hacking's explanation of how we "find out":

There are two sides to learning how to find out. We had to bring to the surface various kinds of innate ability that human beings may have had forever, but whose exercise does not come naturally. And we have to evolve social organizations within which those abilities can be fostered (2008, para. 7).

Children have to use their unrefined abilities in various kinds of play in order to hone skills. Such play should be fostered at school or at home. Hacking would like us believe that this is an age-old process, that is an "innate ability that human beings may have had forever." Hacking's sentiment is ripe with the theory of evolution. He states, "Everything evolves; most things decay" (2008, para. 1)—as we change and grow, we modify the things we use to better meet our

³ Here, I am referring to the following definitions of "technology" as found in the *OED Online*: "The branch of knowledge dealing with the mechanical arts and applied sciences," "The application of such knowledge for practical purposes, esp. in industry, manufacturing, etc.," and "The product of such application; technological knowledge or know-how; a technological process, method, or technique."

needs. For this reason, the definition of play should intrinsically involve the theory of evolution; our basic understanding of play as movement, exercise, and activity, ought to indicate a direction, that of future, and it should be understood that such movement and direction are reflective of the work of our ancestors, yet indicative of our work as adults.

Therefore, it is strange to me that many play advocates reject technology as being a beneficial aspect of play. Technology, as we understand it, has been part of society since the late 18th century.⁴ When our definition of play recognizes perpetual movement and direction, and an emulation of the techniques used by our ancestors, we will improve upon our work as play advocates. We will be better able to sift through what *types* of play are relevant, and not flatly reject technology as an important part of it. For without technology, we would not have play.

Thoughts on Revision

As stated, theorists disagree on a fundamental definition. Some see it simply as energy expended, others think of it as a tactful exploration of self and society. Locally, the definition is just as muddy. I believe this is true for two reasons: 1. When we think of play, we think of *our* play, that which describes how the inquiring self played when she or he was a child, and 2. Play is continuously evolving as children change and grow; children born in 2010 will grow up in a world that is much different than children born in previous decades. It is through play that children learn about how the world functions, it is through play—a process of trial and error (exploration of media and mediums)—that humans have invented and discovered. Play is our foundation. However, what lacks in our contemporary view of it is the concept of evolution.

Play, like most of *worldkind*, has changed and adapted, and we need to embrace this. However, before our definition of play on the grand scale can be revised, we need to rethink our domestic

⁴ The *OED* states that the technology's meaning, as it pertains to the mechanical arts and applied sciences, has been in use since 1787.

notions of play.

When we think of play, we think of our play

As I listen to classmates or colleagues discuss play, I often hear, “Children do not play like they used to,” or “Play is not what it used to be.” This should not surprise us. If children today played *exactly* like their predecessors, little could be said about how the world has changed. Similarities exist in the way I played versus the way my mother played versus the way my grandmother play—and this is probably true for most of us—but differences also exist; each of us had a favorite doll we liked to play with: my doll had hair that changed color in the bathtub, my mother’s doll was porcelain (they were popular to collect when she was a child), and my grandmother played with paper dolls.⁵ As I grew up my mother and grandmother introduced me to their favorite dolls, enhancing our personal relationships, my understanding of history, different materials used to make dolls (paper, porcelain, plastic), and my exposure to different types of play (how we could manage and play with our dolls depended on the material of which it was made). If my grandmother provided my mother with only paper dolls, and if my mother in return did the same to me, I would not have gained the aforementioned knowledge. The distinction between objects being utilized for play from generation to generation will always exist; technology will always surround us. However, it is how—in terms of time and mental and physical health—they are being used that needs to be seriously considered.

Play is continuously evolving as children change and grow

Returning to the example of dolls played with and shared by my grandmother, mother, and I, we can see the technological advancements from doll to doll. Over time, dolls became more durable and functional; not only can today’s dolls have the expansive wardrobe of my

⁵ I chose a female lineage, because it easier for me to make comparisons based on sex. A bias is not intended.

grandmother's paper dolls, be collector's items like my mother's, or change hair color like mine, but there are Web sites devoted to popular brands like Barbie where children have access to all kinds of information about them, as well as play games designed around them. Technology is becoming more prevalent in children's lives; the intertwining of Web sites with dolls is just a part of that.

Children have more access to technology—computers, video games, cell phones, and televisions—than their parents did. This trend will continue to be true. As it stands, however, leading child advocacy groups are arguing for the downsizing of technology in children's lives. During the 2010 summer, 70 child advocacy groups sent a letter to the National Association for the Education of Young Children, urging it to update its "Technology and Young Children" statement by recommending limited screen time as a way to fight childhood obesity (CCFC, et. al, 2010, CCFC to Jerlean E. Daniel, PhD, July 26, 2010). The CCFC spearheaded the campaign, citing a number of statistics showing that "screen time" has increased for children, aged three months old through preschool (CCFC, 2007/2009/2010). While it is alarming that children are not being encouraged to be more active, technology cannot be the only factor to blame.⁶ Adults need to take responsibility for how media is disseminated to their children or students. It is unreal in the 21st century to remove technology from children's lives. Technology, if used in the appropriate manner, can be a rewarding, educational, and motivational part of a child's day. When children use technology, they are utilizing what their predecessors have made for them; they are using the tools that have evolved from the work of an older

⁶ The Centers for Disease Control and Prevention recognize that children's exposure to screen media results in sedentary hours, which could outnumber their caloric intake, resulting in unburned energy. However, it also lists genetic and environmental factors that contribute to the increase in childhood obesity.

generation. When children learn how to use technology in creative, safe, and non-exploitative ways, they are playing and doing work that benefits them.

Good Technology

Research exists that proves technology a supportive component of play in childhood. During 2010, the *Journal of Early Childhood Research* printed an article based on a play study completed by Jackie Marsh, a professor at the University of Sheffield, who ascertained that virtual worlds offer “young children a wide range of opportunities for play and that the types of play in which they engaged related closely to ‘offline’ play” (p.23). Marsh examined virtual worlds targeted at young children and surveyed children’s responses to those worlds. She premises the study on the increase of technology in children’s lives, and aims to lessen the anxiety about children’s exposure to it. She cites a previous study during which she concluded, “children’s play with technological hardware and software has been identified as being active in nature rather than passive” (2005/2010, p. 24). Of the two virtual worlds Marsh examines, I will focus on only one, as it is the example Marsh alludes to most often in her study: *Club Penguin*.

Marsh tells us that *Club Penguin* allows children to choose an avatar that represents themselves and allows them to interact with others online, while *caring* for their avatar’s home and pets. A noted benefit for children from playing *Club Penguin*, according to Marsh, is sociodramatic play, which she defines as “children undertaking play activities based on domestic, everyday practices and involves social interaction” (p. 30); during the game, children wear a variety of costumes allowing them to explore different personas, and they are encouraged to use narrative. Marsh noted that children’s online behavior sometimes did not mimic that of their offline behavior—one student wrote about being drunk in a script from the game—an area she believes needs further exploration; however, some of their behavior was “ritualized,” or

expressive of common social interactions. She writes that one student “learned to demonstrate affection for other penguins by using the heart emoticon” (p. 31). While differences exist in the materials used for online versus offline play, physicality, and social interactions (meaning you may not know who you are talking to) may need to be monitored, Marsh concludes that there is no real difference between the way children are socially and mentally involved in online and offline games.

Similarly, another article printed in 2010 in *The New York Times* discussed the highlights of computer play. Sara Corbett writes in “Learning by Playing: Video Games in the Classroom” about a class of sixth graders enrolled in Quest to Learn, a New York City noncharter public school, who are learning to design their own computer games. Corbett begins her article with an observation of the students watching their teacher, Al Doyle, play a video game—the lesson for that day provided insight on how they could better develop their own games. Corbett asks, “Had [Doyle] taught anything? Had [the students] learned anything?” (para.18). Her questioning is one of importance since technology is a relevant part of all that we do today. Corbett wonders if schools have reconsidered their approaches to education since today’s students are more technologically savvy than their predecessors and since technology will certainly be a prevalent part of their futures. The education at Quest to Learn is centered on the idea that digital games are an important part of children’s lives; in theory, their classroom experiences should reflect their home experiences.

Quest to Learn is the brainchild of professional game designer and professor of design and technology, Katie Dalen, and learning scientist and former principal, Robert Torres, who believe that a technology-based curriculum is “more participatory, more immersive . . . [and] fun” (para. 23). The lessons at Quest to Learn are labeled “quests”; students still study algebra,

physics, ancient civilizations, and writing, but they are interdisciplinary courses with names like “Codeworlds—a hybrid of math and English classes—where the quests blend skills from different subject areas” (para. 24). While assessment scores for students attending Quest to Learn are on par with students attending “regular” schools, Corbett states that efforts are being made to assess the skills of students attending schools like Quest to Learn and students exposed to extensive technology; the federal government is sponsoring a revision to standardized tests that will include sections emphasizing “high order” thinking and problem-solving skills (para. 40). Evolutionary biologist, E.O. Wilson has shared insight that supports technology in education and play. In a separate interview (not with Corbett, but referenced by her in “Learning by Play”), Wilson stated, “I think games are the future in education . . . We’re going through a rapid transition now. We’re about to leave print and textbooks behind” (2009/2010, para. 49). Quest to Learn is just one example of technology being successfully incorporated into education as a form play, making the learning process relevant and enjoyable.

Play in the 21st Century

So much depends on how we define play. Near the end of her article, Corbett ponders, “what constitutes ‘21st-century skills?’” (para.51). We must ask ourselves this question as we consider our understanding of play. It is evident that animals have always played, have always moved about their surroundings experimenting with materials in order to learn more about each other and about the world. The only change has been in the types of materials that are present, as technology has become a driving force in how we function. Play, if considered from an evolutionary perspective, is intrinsically important to our survival, and therefore cannot be ignored by educators and policymakers. Our definition of play must state that it is a symbolic

representation of work done by our ancestors and of honing skills for work to be done in the future.

Once we acknowledge play as an evolutionary principle, we can then begin to better address the impact of technology on children's play, that is start to see where it proves beneficial and note where modifications need to be made. As Marsh observed in her study, there are elements of online play that might impact a child negatively, like interactions or situations that are too adult-like. However, this is an issue that can be addressed by stronger parental control or by the game-makers themselves. Because of the way children are challenged mentally and socially in virtual worlds, Marsh asserts that their play with "technological hardware and software has been identified as being active in nature rather than passive" (pg. 24). Moderation of children's technology use would ensure that children are not using it all of time, and therefore encouraging them to be physically active as well. Embracing technology, as Quest to Learn has, allows students to use it maturely and appropriately, while still playing and enjoying their classroom experiences. Technology is a natural step in our evolutionary process, and therefore cannot be avoided or eliminated from play, especially if play is supposed to support children's social and intellectual aspirations (all of which will someday be even more intertwined with technology).

In conclusion, play has been important to some and unimportant to others. Such division has disrupted our ability to reflect on it appropriately; those who strongly support it appear biased to policymakers, and those who see it as frivolous cut recess from school programs or allow their children to watch television excessively. If a consensus were reached about its meaning, its function would speak for itself. Without play, society would not have flourished and will not. It

is the imagination and creating that takes place during play that allows for problem solving and invention.

Problem solving and invention go hand-in-hand with technology. Technology is our ability to understand how to put things together and how to use them. Anything that has ever made our lives easier or more efficient is a product of technology, despite the time period during which it was invented. This succession is necessary, and play—experimenting, imagining, and creating—is involved in making all things.

Redefining play and reconsidering technology does not denounce the concerns of play advocates who worry about children's overexposure to media. These advocates have strong points about overexposure encouraging inactivity and idleness; however, media is not and should not be the only concern. Stronger parental involvement, better eating habits, and physically stimulating environments can prevent children's reliance on technology for pleasure and health problems. NCLB has disrupted our education system. Teachers and students are bound to standardized curriculums and taking assessment tests. As long as our education system relies on these two objectives, play will continue to diminish and lose value. It is time to step back, or maybe even step up, and say what play really means. Without it, we would cease to exist.

References

- Campaign for a Commercial-Free Childhood. (2007/2009/2010). Worried about preschoolers and screen time? Here's what to do [Organization research]. Retrieved from <http://www.commercialfreechildhood.org/actions/naeyctechandchildren.html>
- Campaign for a Commercial-Free Childhood. (2010, July 26). [Letter to Jerlean E. Daniel, PhD]. Retrieved from <http://www.commericalfreechildhood.org>
- Centers for Disease Control and Prevention. (2009, October 20). Overweight and obesity [Organization research]. Retrieved from <http://www.cdc.gov/obesity/childhood/causes.html>
- Corbett, Sara. (2010, September 15). Learning by play: Video games in the classroom. *The New York Times*. Retrieved from <http://www.nytimes.com>
- Fagan, R. (1981) Appendix I: Representative definitions of play. *Animal play behavior*. pp. 500-504. New York: Oxford University Press.
- Hacking, Ian. (2008). *Finding Out*. Unpublished work for Seminar on Scientific Reason taught at the University of California, Santa Cruz.
- Marsh, Jackie. (2010). Young children's play in online virtual worlds. *Journal of Early Childhood Research*, 8(23), 24-38. doi: 10.1177/1476718X09345406
- Play. (n.d.). In *Oxford English Dictionary Online* (2nd ed.) Retrieved from <http://dictionary.oed.com>
- Technology. (n.d.). In *Oxford English Dictionary Online* (2nd ed.) Retrieved from <http://dictionary.oed.com>